

Social and psychological factors in the distribution of STD in male clinic attenders

II Personality disorders, psychiatric illness, and abnormal sexual attitudes

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SUMMARY Using standardised questionnaires we examined the possible contributions of psychiatric illness, delinquent and other abnormal personality traits, and disturbed attitudes to sex to the risk of sexually transmitted disease (STD) infection in men attending an STD clinic. We found certain differences in personality and in attitudes between the clinic sample and control men. These differences, however, a) were not comparable with those found in groups of clinically abnormal subjects, b) were confined to homosexual and bisexual men, and c), with the possible exception of gonorrhoea, were not related to risk of STD infection.

Introduction

Conventional explanations for the present epidemic of STD commonly rely on assumptions about the relation between risk of sexually transmitted disease (STD) infection and sexual promiscuity, and between the latter variable and other social and psychological factors. In the first paper in this series we found that demographic and social factors were of little aetiological importance. In this paper we examine the possible contributions of psychiatric disorders, abnormal personality traits, and disturbed attitudes to sex.

Patients and methods

The results presented in this paper are drawn mainly from Group B patients (see paper I). Personality traits and attitudes to sex were investigated using the Eysenck personality questionnaire,¹ and the Eysenck sexual attitudes questionnaire.² Information on sexual activity was obtained at interview from a sub-

group of 45 patients in Group B and from all 210 patients in Group C. The Eysenck personality questionnaire measures four important personality traits: extraversion (sociable, impulsive, active, lacking social inhibition); neuroticism (subject to strong but labile and conflicting emotions, anxious, easily upset, predisposed to neurotic psychiatric illness); psychoticism (solitary, troublesome, cruel, lacking in feeling and sensitivity, hostile and aggressive, predisposed to psychotic psychiatric illness, associated with personality disorder, drug and alcohol addiction, criminality); and lie scale (tendency to "fake good", to give answers to the questionnaire that are perceived as socially acceptable rather than true, orthodox, conventional, law abiding).

The attitudes measured by the Eysenck sexual attitudes questionnaire are largely self explanatory (see results). Two of the super factors (not shown) are scales summarising attitudes that express respectively: libido (enjoyment, approval and pursuit of sexual activity and experience); and dissatisfaction (disappointment, guilt, conflict, worry and disapproval over sexual matters). The third super factor, the masculinity scale, is a cumulative scale of items on which men have higher scores than women.

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Results

Serological tests for hepatitis were not performed routinely on patients in Group B but diagnoses of all other common STDs were included (as described in paper I). The results of most interest were found for syphilis, gonorrhoea, and NSU, and it is these that we report here. Results obtained using the Eysenck personality questionnaire were repeated after excluding subjects who scored high (>8) on the lie scale and the second results were essentially similar to those described here.

PERSONALITY

Correlations with STD diagnoses

Table I shows that neuroticism was found to

TABLE I Correlation coefficients for STD diagnoses with personality traits in 180 of the Group B patients

Diagnosis	Personality traits		
	Psychoticism	Extraversion	Neuroticism
Syphilis	-0.12	-0.17**	0.20**
Gonorrhoea	0.11	-0.07	0.14*
NSU	0.01	0.07	-0.06

* = $p < 0.05$, ** = $p < 0.005$.

correlate positively and significantly with syphilis ($p < 0.005$) and with gonorrhoea ($p < 0.05$). Extraversion, however, although showing no significant positive correlations, correlated negatively

($p < 0.05$) with the diagnosis of syphilis. No significant correlations were found for psychoticism, or for the lie scale (not shown).

Distribution of personality scores by sexual orientation

In tables II & III the asterisks indicate the significance of any differences between samples drawn from the clinic population and the results obtained by Eysenck and Eysenck from large groups of control subjects.¹ The mean scores for psychoticism, extraversion, and neuroticism were significantly higher, and that for lie scale significantly lower, for the clinic patients than those reported for controls. When the scores were examined for the sexual orientation groups separately, however, using information from the subgroup of 45 subjects who were given the standardised sexual history interview, the heterosexual men were not found to have significantly different scores from controls. Exclusively homosexual men, although different from control men, were similar to control women, with only slightly lower psychoticism and lie scale scores. Bisexual men differed from both control men and control women, showing higher neuroticism scores than control women, and higher psychoticism scores than control men.

ATTITUDES

Correlation coefficients for sexual attitudes with STD diagnoses

As would be anticipated in any large set of correla-

TABLE II Mean (SD) scores on the scales for personality traits of Group B patients compared with those of control men

Subjects	Psychoticsim	Extraversion	Neuroticism	Lie Scale
Control men (n = 2312)	3.78 (3.09)	13.19 (4.91)	9.83 (5.18)	6.80 (4.14)
Clinic patients				
Total (n = 180)	3.97* (2.68)	13.68* (4.54)	11.84** (5.59)	6.68* (3.73)
Sexual orientation subgroups				
Heterosexual men (n = 18)	3.97 (2.24)	13.36 (4.56)	9.92 (4.46)	7.47 (3.60)
Homosexual men (n = 11)	2.10* (1.97)	13.30 (3.56)	12.35* (6.04)	6.10 (2.88)
Bisexual men (n = 16)	4.25* (2.54)	12.09* (6.10)	13.53* (4.87)	7.40 (3.72)

* = $p < 0.05$, ** = $p < 0.01$.

TABLE III Mean (SD) scores on scales for personality traits of men in Group B compared with those of control women

Subjects	Psychoticsim	Extraversion	Neuroticism	Lie Scale
Control women (n = 3262)	2.63 (2.36)	12.60 (4.83)	12.74 (5.20)	7.73 (4.18)
Clinic patients				
Total (n = 180)	3.97** (2.68)	13.68** (4.54)	11.84** (5.59)	6.68* (3.73)
Sexual orientation subgroups				
Heterosexual men (n = 18)	3.97* (2.24)	13.36* (4.56)	9.92** (4.46)	7.47 (3.60)
Homosexual men (n = 11)	2.10* (1.97)	13.30 (3.56)	12.35 (6.04)	6.10* (2.88)
Bisexual men (n = 16)	4.25** (2.54)	12.09 (6.10)	13.53* (4.87)	7.40 (3.72)

* = $p < 0.05$, ** = $p < 0.01$.

tions, table IV shows that a number of significant results were obtained. Taking the results as a whole, however, two important patterns of correlations may be identified. Firstly, the homosexuality attitude factor correlated positively with syphilis ($p<0.005$) and with gonorrhoea ($p<0.05$), but negatively, though just above the 0.05 level of significance, with NSU. Secondly, gonorrhoea correlated positively and significantly with physical (<0.05), neurotic ($p<0.005$), impersonal ($p<0.05$) and aggressive ($p<0.05$) sexual attitudes. NSU, however, correlated negatively ($p<0.005$) with attitudes expressing an interest in the physical aspects of sex. The attitude superfactors (not shown) showed no significant correlations.

TABLE IV Correlation coefficients for STD with sexual attitudes in 175 of the Group B patients

Sexual attitude factors	Syphilis	Gonorrhoea	NSU
Permissiveness	-0.05	0.04	0.04
Satisfaction	-0.07	-0.05	0.05
Physical sex	0.04	0.16*	-0.21**
Pornography	0.01	0.04	0.02
Neurotic sex	0.11	0.26**	0.00
Impersonal sex	0.08	0.15*	-0.04
Prudishness	0.13	0.12	0.04
Sexual shyness	0.08	-0.01	-0.07
Sexual excitement	-0.11	-0.03	0.01
Sexual disgust	0.02	0.13	-0.01
Aggressive sex	0.05	0.14*	-0.12
Homosexuality	0.24**	0.14*	-0.12

* = $p<0.05$, ** = $p<0.005$.

Sexual attitude factors and sexual orientation

The clinic patients showed several differences (summarised qualitatively in table V) in sexual attitudes from those of 427 control men reported by Eysenck,² although none of these differences was very large. They tended, however, not to be in the direction that might have been anticipated. Indeed,

the only factor giving significantly higher scores in the clinic sample than in control men was neurotic sex ($p<0.05$). Surprisingly perhaps, the clinic sample showed less interest in pornography ($p<0.01$), less sexual excitement ($p<0.01$), and less interest in physical ($p<0.01$) and aggressive sex ($p<0.05$), and greater prudishness ($p<0.05$) and sexual disgust ($p<0.01$). Permissiveness, satisfaction, impersonal sex and sexual shyness showed no significant differences between clinic attenders and controls (not shown on table). For the attitude super factors (also not shown) the clinic sample had lower scores on the scales for libido ($p<0.05$), satisfaction ($p<0.05$) and masculinity ($p<0.01$). The scores for the sexual orientation subgroups suggested that the differences between the clinic sample and control men were largely caused by the contribution of the bisexual men.

Discussion

In contrast to the social factors examined in the first paper in this series, many of the results reported in this paper are strongly significant. Indeed, it might seem at first glance not only that the clinic sample is abnormal on all four personality traits (table II) and on a variety of attitudes to sex (table V), but also that these abnormalities are clearly related to risk of STD infection (Tables I and IV). Both these conclusions, however, require some qualification. We will therefore consider separately the implications of our results for the possible contribution to STD risk of psychiatric disorder, delinquent and other personality traits, and abnormal attitudes to sex.

PSYCHIATRIC DISORDER

High scores on both the psychoticism and lie scales are associated with psychiatric disorder.¹ In this study the clinic sample showed high scores on both these scales (Table II), which corresponded broadly with results reported by Wells,^{3,4} and by Wells and

TABLE V Summary of differences in sexual attitudes between clinic patients in Group B and control subjects

Sexual attitude factors*	Table sample (n = 175)	Heterosexual (n = 18)	Sexual orientation subgroups	
			Homosexual (n = 11)	Bisexual (n = 16)
Physical Sex	↓↓	NS	↓	NS
Pornography	↓↓	NS	NS	NS
Neurotic sex	↑	NS	NS	↑↑
Impersonal Sex	NS	NS	NS	↑↑
Prudishness	↑	NS	NS	↑
Sexual Excitement	↓↓	NS	NS	↓
Sexual Disgust	↑↑	NS	NS	↑
Aggressive sex	↓	NS	NS	NS

*Only factors showing significant differences are included, NS = no significant difference, arrows indicate direction of difference, one arrow = $p<0.05$, two arrows = $p<0.005$.

Schofield⁵ for the Black Street Clinic in Glasgow. These scores, however, were considerably lower than those reported by Eysenck for groups of psychiatrically disturbed patients (mean (SD) for clinical neurotics 16.56 (4.64) on the neuroticism scale, for clinical psychotics 5.6 (4.02) on the psychoticism scale).¹ Furthermore, when the scores were examined separately in the sexual orientation subgroups (tables II and III), exclusively heterosexual men showed the same scores as control men, and exclusively homosexual men showed similar scores to those of control women. It was only the bisexual men who showed abnormally high scores (for both the psychoticism and neuroticism scales) compared with control men and women, and even these scores were not as high as those found in clinically abnormal subjects. With the possible exception of bisexual men, therefore, our results did not suggest any excess of psychiatric disorder in the clinic patients, a result which accorded with findings of other workers.⁶⁻⁸

DELINQUENCY

An association between delinquency and STD has been widely assumed.⁹⁻¹⁰ Delinquent groups have high psychoticism and neuroticism scores.¹ As with psychiatric disorder, however, these groups have considerably higher scores than those of the clinic patients (mean (SD) for prisoners 5.6 (4.02) on psychoticism, for drug addicts 17.88 (3.94) on neuroticism, and for alcoholics 19.64 (2.13) on neuroticism).¹ The personality traits examined therefore provide little evidence (again with the possible exception of bisexuals) to support an association between STD and delinquency in the clinic patients. This result is consistent with the findings for drug and alcohol abuse and for aggressive attitudes and behaviour reported in paper I. The association noted there between alcohol abuse and gonorrhoea is reflected in these results by the correlation found between gonorrhoea and the psychoticism scale scores. This result, however, is just above the 0.05 level of significance (Table I).

OTHER PERSONALITY TRAITS

Variations in normal personality traits, as distinct from extreme or abnormal traits, might influence STD risk. Indeed, each of the traits examined by Eysenck's questionnaire, could, in principle, be important in this respect. The sociable, impulsive, uninhibited extravert, who seeks strong and varied stimulation, might be expected to be particularly at risk.¹ A high score on the psychoticism scale, however, through its association with increased sexual drive combined with a lack of concern for the feelings of others, might also be important.¹ Neuroticism might also operate to increase risk through an

association with a tendency to rely on inappropriate outlets for high sexual drive.¹ In this study, however, although the diagnoses of both gonorrhoea and syphilis correlated positively with neuroticism (table I), there were no other significant positive correlations. Indeed, syphilis actually correlated negatively with extraversion, that is, in the "wrong" direction. Furthermore, even the significant correlation of neuroticism with syphilis and gonorrhoea cannot be taken to suggest that neuroticism itself is an important risk factor because both syphilis and gonorrhoea, but not NSU, are associated with homosexuality (see paper III), and both homosexuals and bisexuals score high on the neuroticism scale. Hence, the results for neuroticism may simply reflect sexual orientation as the relevant STD risk factor.

SEXUAL ATTITUDES

Many of the attitudes to sex measured by the Eysenck sexual attitudes questionnaire (listed in table IV) might be expected to increase the risk of STD infection particularly if present in extreme degree. As with the personality traits examined, although the clinic patients as a whole showed a variety of differences from control men, these appeared to be due largely to the contribution of bisexual men. Furthermore, most of the differences were of a kind that might be expected to decrease rather than increase STD risk. Thus, although bisexual men showed an increased interest in the more impersonal aspects of sex, they were more prudish, more guilt-ridden (neurotic sex), experienced more disgust over sexual intercourse, and felt less sexual excitement (table V).

The correlations of sexual attitudes with STD diagnoses (Table IV) were, however, of more interest in two respects. Firstly, gonorrhoea, unlike syphilis and NSU, correlated positively with certain attitude factors of *prima facie* aetiological importance—that is, with interest in the physical, aggressive, and impersonal aspects of sexual intercourse. To this extent, therefore, and consistently with other results reported above, gonorrhoea, but not syphilis or NSU, appeared to be associated with abnormal sexual attitudes. Secondly, both gonorrhoea and syphilis correlated positively and NSU negatively (though at just above $p=0.05$), with homosexuality. Hence, the sexual attitudes examined, like the personality traits reported above, point to sexual orientation as a factor of some general importance in determining STD risk.

Conclusions

The differences reported in this paper between the clinic patients and control men do not suggest any

large or important contribution to the distribution of STD among male clinic attenders by psychiatric disorders, delinquent or other abnormalities of personality, or abnormal sexual attitudes. With the possible exception of gonorrhoea, the results point mainly to sexual orientation as a principal factor determining STD risk. It is this factor, together with other aspects of sexual behaviour, that will be examined in the next paper.

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